

**Delta Operations for Salmonids and Sturgeon (DOSS) Group**  
**Conference call: 1/31/12 at 9:00 a.m.**

**Objective:** Provide advice to the Water Operations Management Team (WOMT) and National Marine Fisheries Service (NMFS) on measures to reduce adverse effects from Delta operations of the Central Valley Project and the State Water Project on salmonids and green sturgeon. DOSS will coordinate the work of other technical teams. DOSS notes and advice can be found at: <http://www.swr.noaa.gov/ocap/doss.htm>

**DWR:** Mike Ford, Kevin Reece, Andy Chu, James Gleim, Angela Llaban, Tracy Pettit

**FWS:** Roger Guinee, Leigh Bartoo, Craig Anderson

**NMFS:** Barbara Rocco, Bruce Oppenheim, Barb Byrne, Jeff Stuart, Garwin Yip

**Reclamation:** Josh Israel, Russ Yaworsky

**DFG:** Bob Fujimura, Robert Vincik

**EPA, SWRCB:** not present

**Agenda**

1. Fish monitoring
2. Current operations
3. Annual review comments

**Action Item [11/15/11]**

Evaluate the data from Mill and Deer Creek RSTs, Tisdale, and Knights Landing RSTs and compare the timing of spring-run Chinook salmon migration captured by each data set. **Carry until we get Mill and Deer Creek data overview from DFG.**

**Action Item [1/3/12]:** Review the DOSS section of the annual review report and provide responses regarding implementation of recommendations. **Carry**

**Action Item [1/17/12]:** DOSS requests that DFG reconcile the database for hatchery fish that fall within the winter-run size category for this year with the tags that are read from the fish facilities. This can be done with a simple feedback loop from DWR with the tag information. **Carry**

**Action Item [1/17/12]:** DWR, Reclamation, NMFS, and DFG will meet to discuss how best to include CWT information in available salvage databases, both going forward and perhaps retrospectively. Bob Fujimura, DFG, agreed to lead this effort and provide a list of what needs to be revised. **Carry**

**Fish Monitoring:** The following table presents fish monitoring data. Unless otherwise noted, reported sizes are fork length. See:

<http://www.water.ca.gov/swp/operationscontrol/calfed/calfedmonitoring.cfm>.

Location	Chippis Is. Midwater Trawl	Sacramento Kodiak Trawl	Mossdale Kodiak Trawl	Beach Seines	Knights Landing RST	Tisdale Weir RST
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Sample Date	1/24, 27	1/23, 25, 27	1/23, 25, 27	1/23–1/26	1/24–1/30	1/24-1/28
<b>Total Catch</b>	<b>24</b>	<b>591</b>	<b>0</b>	<b>890</b>	<b>6,890</b>	<b>2,593</b>
<b>FR</b>		531		866	6,645	2,468
<b>WR</b>	1	2		10	76	48
<b>SR</b>		1		4	6	3
<b>LFR</b>					3	1
<b>Ad-Clipped Chinook</b>	7	26		3	57	43
<b>DS</b>	13 (57–73 mm)			3 (64–72 mm)		
<b>Splittail</b>	1			3		
<b>Longfin</b>						
<b>SH (ad-clip)</b>	2	30			111	30
<b>SH (wild)</b>		1 (first seen this year)		1	1	
<b>W. Temp. (avg. °F)</b>	48.0	47.5	50.5	48.6	48.2	46.2
<b>Flows (avg. cfs)</b>					15250	11953
<b>Turbidity (avg. NTU)</b>					66.7	43.6
<b>WR/LFR Avg. CPUE</b>					8.81	4.3
<b>FR/SR Avg. CPUE</b>					748.7	216.4

**Key:** FR = Fall run; LFR = Late-fall run; SR = Spring run; WR = Winter run; SH = Steelhead; DS = Delta smelt; LFS = Longfin smelt; SPTL = Splittail; CPUE = catch per unit of effort, ACT = acoustical tag

**Tisdale:** Traps were temporarily pulled out on 1/24/12 to clean the debris buildup, but were put back into the water on 1/25/12. The Tisdale RSTs were not sampling for 26 hours between the 24th and 25th.

**CWTs:** A question was raised about the most efficient way to track in-season CWT readings from both Knights Landing and Tisdale RSTs in real time, or from beach seines and Sacramento trawls and where the data is currently being kept. DWR and Reclamation are funding the monitoring; however, it is not being integrated into a program that can be used for assessing water project effects. There should be a centralized database for real-time reporting. This was also a general recommendation from the independent review panel. FWS: It's a good idea, but can DOSS be proactive in trying to make this happen? Israel (Reclamation) sees this as an interagency funding and collaboration issue on how monitoring is used for management. Those using the data need to efficiently get the CWT codes within the season in which they want to use them. NMFS: the approach should be to change things through IEP; the IEP is restructuring and attempting to address monitoring requirements, and find funding for, all the requirements of the new BiOps for this year.



**Action Item: Reclamation (Israel) will contact Stockton FWS (Kim Webb) to discuss centralization of CWT data.**

**Annual Review:** The annual review subgroup (Israel, Llaban, Oppenheim, Stuart) met on Monday (1/30/12) to discuss specific questions that the review panel responded to regarding the DOSS technical team. They had a good discussion about the issue of centralizing the database for CWT and having a process model (recommended by the review panel). The subgroup's initial response was to indicate that DOSS is meeting some of the recommendations through the work being done with acoustic tag studies in the south Delta and the workshop coming up on the joint stipulation. However, to fully meet the panel's recommendation, there would need to be expanded monitoring to the entire Delta to incorporate the Sacramento River and all winter months instead of only April and May. The subgroup will meet again after the February 7 joint stipulation technical workshop and try to put together a response to all recommendations. DOSS is not looking specifically at the panel recommendation to have a centralized database, which was not put forth to a specific technical team. It was a general comment/ approach to management of the ecosystem (see pg. 14 of the Independent Review Panel report) to have this database available on the Internet and was beyond the scope of the BiOp and RPA. More tools should be developed that would give DOSS more information on fish behavior, survival, and route selection rather than just knowing that "fish are in the Delta".

There is currently no monitoring for salmonids similar to that of delta smelt or that incorporates acoustic tracking comparable to what is being proposed. The current monitoring program set up by the IEP would need to be refocused to move from a long-term baseline monitoring approach and have monitoring tools to make water management decisions in the Delta. This would be a totally different focus from what IEP was set up to do over past 20 years. It is a resource-intensive effort and would be very difficult for DOSS to require that this be done. The IEP salmon monitoring effort should include both NMFS Science Center experts, and take a hard look at the purpose for its monitoring programs that provide data retrospectively. The data are available to develop the tools to answer water management questions but that are not being used, such as survival estimates in particular reaches, and triggers could be developed based on CWTs from Coleman or other hatcheries instead of funding new acoustic tag studies.

**Action Item: DOSS will work with IEP to refocus the salmon monitoring program in light of management needs to make operational decisions in the Delta. Oppenheim (NMFS) will work the other fish agencies involved in the science panel review of the IEP salmon monitoring program this year.**

**Fish Salvage Data (1/23through 1/29)** Reports are also posted at <ftp://ftp.delta.dfg.ca.gov/salvage>: and you can locate the table under folder "DOSS salvage tables" (you can also try <http://www.dfg.ca.gov/delta/apps/salvage/Default.aspx>) and click on "salvage FTP site.

Chinook salmon<sup>1</sup>: Winter-run-size Chinook salmon (adipose clipped) were salvaged at the CVP (weekly expanded salvage = 91) and SWP (weekly expanded salvage = 24) facilities. We are

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<sup>1</sup> Race of clipped salmon is determined solely by length of the fish at date criteria on date of salvage and should be treated as preliminary and may be subject to change when Reclamation and FWS reports the tag information on race.



waiting for information from CWTs over the weekend to identify race. Winter-run-size non-clipped Chinook salmon were salvaged at the CVP (weekly expanded salvage = 11), but not at the SWP. Late-fall-run-size Chinook salmon (adipose clipped) were salvaged at the CVP (weekly salvage = 18), but not at the SWP. Late-fall-run-size non-clipped Chinook salmon were salvaged at the CVP (weekly salvage = 1), but not at the SWP. The water-year (10/1/2011 to present) salvage totals of all races of Chinook salmon at the CVP are 122 adipose clipped (loss = 90) and 31 non-clipped (loss = 22). The water-year salvage totals of all races of Chinook salmon at the SWP are 24 clipped (loss = 109) and 0 non-clipped (loss = 0). 1/30/12: Winter-run-size ad-clipped Chinook salmon were observed at both facilities.

Steelhead: Steelhead (adipose clipped) were salvaged at the CVP (weekly expanded salvage = 16) and SWP (weekly expanded salvage = 4). The water-year salvage totals of steelhead at the CVP are 16 clipped and 0 non-clipped. The water-year salvage totals of steelhead at the SWP are 4 clipped and 8 non-clipped. Steelhead daily salvage: 6 (expanded) clipped on 1/29 at CVP and 4 (expanded) clipped on 1/27 at SWP.

Delta smelt: Delta smelt were salvaged in low numbers (2–5/day) at the CVP (weekly salvage = 19) but not at the SWP. The water-year salvage total of delta smelt at the CVP is 23. No delta smelt have been salvaged at the SWP this water year.

Longfin smelt: No longfin smelt have been salvaged at either facility this water year.

Splittail: Splittail were salvaged at the CVP (weekly expanded salvage = 8) and SWP (weekly salvage = 7). The water-year salvage total of splittail at the CVP is 193. The water-year salvage total of splittail at the SWP is 3,752.

White sturgeon: No white sturgeon were salvaged at either facility. The water-year salvage total of white sturgeon at the CVP is 60. No white sturgeon have been salvaged at the SWP this water year.

Green sturgeon: No green sturgeon have been salvaged at either facility this water year.

DFG mentioned that Geir Aasen would like to know from the DOSS group how he should be classifying the ad-clipped salmon that have missing tags. It was noted that these salmon would be assumed to be late-fall run for now, but we can't be certain about this later in the year when multiple hatcheries are releasing different races of salmon.

**Action Item: DOSS agreed to think about this and report back to Geir next week.**

DFG is also still waiting for SWP to report out on their CWTs from this last week. DWR has the codes from the SWP and is working on the data; DWR will send the information to Geir when it is available. DFG would like to get the CWT codes directly from the SWP in a fashion similar to what is currently being done by Reclamation. The facilities are waiting to read CWTs from the weekends on Monday as well, so this could be a problem when we get into a critical time when we're close to triggers; we will want 24-hour turnaround on the CWT readings. The first spring-run surrogates showed up they are now being tracked based on the CWTs.



What does DOSS think about turnaround time on CWTs? Should there be daily reports? The CVP reports 7 days/week and quickly (typically by the next day). If there are verification problems based on preliminary information, CVP is good about providing revisions to the data later. NMFS thinks that reporting should be a 24-hour turnaround time; keep it as “daily”. DWR should consider a similar pattern to include CWT data in their daily reporting sheets so that DFG has them as quickly as possible. DOSS agreed that reporting CWT data on a daily basis should continue, even over the weekends.

**Action Item: DWR (Llaban) will work on this but it might take some time to consolidate the two data sets that are collected by different groups. This action will carry pending Llaban’s estimate of timing.**

**Incidental take:** Now that the JPE has been completed, the incidental take limit for the projects is set at 3,241 natural winter run for this water year. The JPE-based loss density triggers are 1.6 fish/TAF (for the first-stage trigger) and 3.2 fish/TAF (for the second-stage trigger), both of which are below the minimum densities; therefore, DOSS will continue to use the 2.5 fish/TAF first-stage trigger and 5.0 fish/TAF second-stage trigger. DOSS members can track daily older juvenile loss density on the DFG website salmon table that was developed specifically for DOSS. Daily older juvenile loss densities this past weekend were at or below 0.2 fish/TAF, so we are currently below the density triggers listed in the NMFS BiOp.

There was a question of whether the salmon size criteria are ever adjusted based on actual spawning time. They are not, but could be improved by annual adjustments based on date of spawning, a bioenergetics model, or an added growth function would be helpful.

**CWTs for spring-run surrogates:** There were five releases (two production and three surrogate) at Battle Creek from December 16, 2011, through January 20, 2012. The first three releases have been observed so far at the fish facilities based on CWT recoveries. The first production release (12/16) had a confirmed loss of 61 or 0.015% of the release. The first spring-run surrogate release (12/23) had a confirmed loss of 2.2 or 0.004% of the release. This is under the 0.5% first concern level. No CWTs have been recovered yet from the 1/13 surrogate release (see DWR table below, and on DWR website).



**Coleman Hatchery Late-Fall Run and Livingston Stone Winter-Run Chinook Loss at the Delta Fish Facilities 2011/2012**

Release			Confirmed	Number		First	Second	Date of First	Date of Last
Date	CWT Race	Release Site	Loss	Released	% Loss <sup>1</sup>	Concern Level	Concern Level	Loss	Loss
12/16/2011	LF	Battle Creek	61.03	394,700	0.015	n/a	n/a	1/11/2012	1/27/2012
12/23/2011	LF	Battle Creek	2.20	62,400	0.004	0.5%	1.0%	1/18/2012	1/18/2012
1/3/2012	LF	Battle Creek	131.43	448,600	0.029	n/a	n/a	1/19/2012	1/28/2012
1/13/2012	LF	Battle Creek	0.00	80,800	0.000	0.5%	1.0%	-	-
1/20/2012	LF	Battle Creek	0.00	20,000	0.000	n/a	n/a	-	-

For Chinook lost 10/1/2011 through 1/29/2012

SWP coded-wire tags read 10/1/2011 through 1/29/2012

CVP coded-wire tags read 10/1/2011 through 1/29/2012

<sup>1</sup>LF % Loss = (Confirmed Loss/Number Released)\*100

DWR-DES Revised 1/30/2012

Preliminary, subject to revision

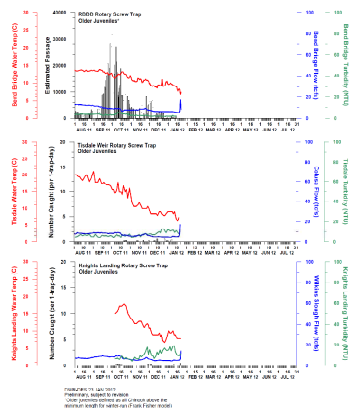
The hatchery winter-run release from Livingston-Stone National Fish Hatchery (LSNFH) is usually scheduled for the first week in February. The B2 Interagency Team asked that the hatchery release be delayed because of a ramp down in flows at Keswick Dam starting on 2/1/12 to conserve storage (inflows at 50% of average). Keswick releases are dropping from 4,000 cfs to 3,250 cfs (minimum required) between now and 2/8/12. The LSNFH agreed to delay the release until flows are stabilized most likely on 2/9/12.

**Stanislaus River:** There have been 42 *O. mykiss* seen on the Stanislaus this year, which is nearly triple the second highest number seen in 2008 of only 15 fish. The data on size are not yet available. Jeff Stuart (NMFS) will try to get the data from Andrea Fuller at Fish Bio.

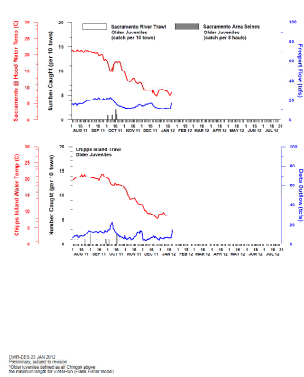
Below are the weekly graphs prepared by DWR (Llaban) for the capture of older juvenile salmon in the Sacramento River and Chipps Island trawls. Also included are graphs of the number of fry/smolts measured at all locations and older juvenile losses from October 2011 through January 30, 2012. From the graphs, we see that the length/size of fish at the fish facilities now are within the winter-run size category, but most are really small late-fall run from the Coleman Hatchery based on the CWT real-time data.



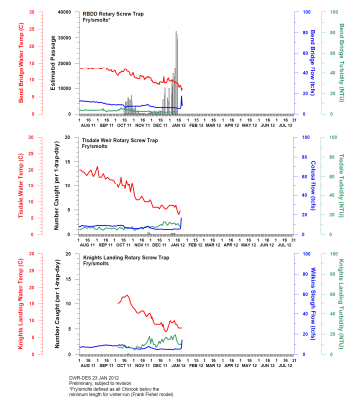
# NUMBER OF OLDER JUVENILE CHINOOK MEASURED IN THE SACRAMENTO RIVER



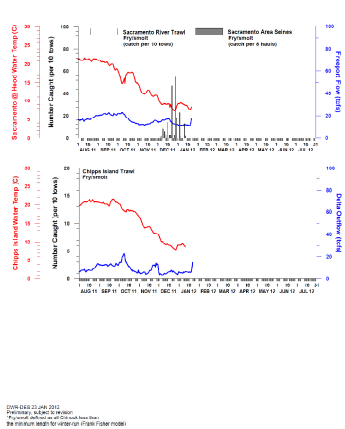
# NUMBER OF OLDER JUVENILE CHINOOK MEASURED IN THE LOWER SACRAMENTO RIVER & CHIPPS ISLAND



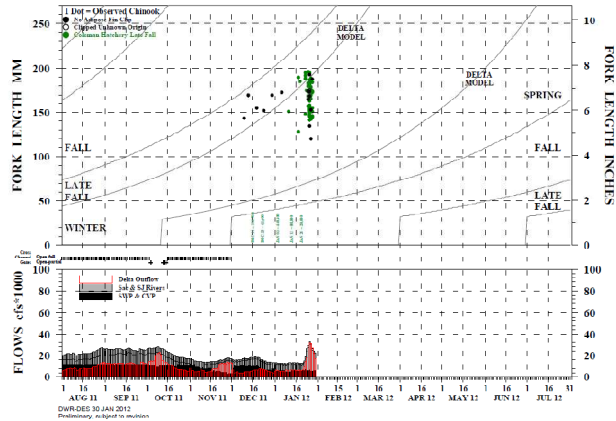
# NUMBER OF FRY/SMOLT CHINOOK MEASURED IN THE SACRAMENTO RIVER



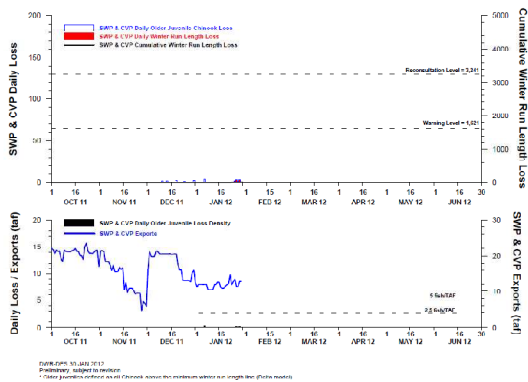
# NUMBER OF FRY/SMOLT CHINOOK MEASURED IN THE LOWER SACRAMENTO RIVER & CHIPPS ISLAND



# OBSERVED CHINOOK SALVAGE AT THE SWP & CVP DELTA FISH FACILITIES 08/01/2011 THROUGH 01/29/2012



# NON-CLIPPED WINTER RUN & OLDER JUVENILE CHINOOK LOSS AT THE DELTA FISH FACILITIES 01 OCT 2011 THROUGH 29 JAN 2012





**Operations (1/31/12)**

SWP		CVP	
Exports (cfs)			
Clifton Court Forebay	3,000	Jones Pumping Plant	3,200
Reservoir Releases (cfs)			
Feather - Oroville	1,750	American - Nimbus	1,700 (early Feb. will reduce to 1,450)
		Sacramento - Keswick	4,000 (beginning 2/1/12, releases will be reduced by 100 cfs/day to 3,250 by 2/8)
		Stanislaus - Goodwin	600
Reservoir Storage (in TAF, % of capacity)			
San Luis ( (SWP)	1,001	San Luis (CVP)	942 (98% full)
Oroville	2,542	Shasta	3,106
		Folsom	413
Delta Operations			
DCC	Closed as of 12/1/11	Sacramento River at Freeport (cfs)	18,583
Outflow Index (cfs)	~14,000	San Joaquin River (cfs) at Vernalis	1,976
Total Delta Inflow (cfs)	21,237	OMR (daily) (CDEC) (cfs)	
Water Temperature (°F)		OMR 5 day (CDEC) (cfs)	-4,571
X2 (km)	71	OMR 14 day (CDEC) (cfs)	-4,653
E/I (%)	27		

**Delta Conditions:** Balanced.

**X2:** The X2 conditions for the beginning of February should meet the water quality standards. Collinsville is still below 1.0 or about 0.5; the standard is 2.64. If it stays dry, outflow would continue to drop and DWR expects that conditions would degrade. In this case, a higher outflow would most likely be realized through export cuts rather than higher reservoir releases.

**E/I:** The E/I ratio normally decreases from 65% to 35% on February 1; however, because the January 8 River Index (Sacramento River index) was below 1.0 MAF, the E/I ration in February is 45%.

**Weather Forecast:** Most likely dry for the next 10 days.

**Technical Workshops:** Byrne will send information on the OMR Workshop (2/7/2012) and Acoustic Tag Workshop (2/3/2010) to the DOSS group. Participants in either workshop must RSVP to Israel (for the 2/3 workshop) and Byrne (for the 2/7 workshop). The focus of the workshop on 2/7/2012 is specific to implementing the OMR adaptive range specified in the stipulation agreement filed in the consolidated salmonid cases, so the attendees will primarily be the parties to the joint stipulation. Byrne needs to know total number of attendees (space is limited) so that arrangements can be made for a supplemental WebEx space, if necessary.

**Smelt Working Group (SWG) update:** No recommendations. There continues to be a low level of salvage at the CVP (3 delta smelt salvaged were expanded to 12 yesterday). Other



indicators from surveys indicate that the risk to smelt is still low. Longfin: no need to change operations. Recommended an OMR flow of no more negative than -5,000 cfs would protect both Longfin and Delta smelt. The QWEST yesterday changed from positive to -900 cfs. The spring Kodiak trawls begin on February 13 and the smelt larval survey begins next week. There could be a potential change in conditions as QWEST becomes more negative.

**DOSS advice to WOMT and NMFS:** Maintain OMR at no more negative than -5,000 cfs.

**Adjustments to the RPA:** A few suggested adjustments to the RPA were provided after the DOSS call on January 24, 2012. We will discuss these on our next call and decide whether those adjustments warrant inclusion in a revised RPA.

**Next Meeting:** Because of the technical workshop scheduled for February 7, 2012, we will not have a DOSS call next week. If we reach the loss density trigger before then, DOSS will have an emergency call. The next regular call is scheduled for February 14, 2012, at 9:00 a.m.